



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/506,327 02/18/00 ISE

T 016907/1044

┌

MM92/0418

└ EXAMINER

Foley & Lardner  
3000 K Street N.W.  
P.O. Box 25696 - Suite 500  
Washington DC 20007-5109

GRAINGER, J  
ART UNIT PAPER NUMBER

2852  
DATE MAILED:

04/18/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

**Office Action Summary**

Application No.

09/506,327

Applicant(s)

ISE, TOKIHIKO

Examiner

Quana Grainger

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-8, 10-19, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 9 and 20 is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

Art Unit: 2852

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-19, and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka et al. in view of Okada et al. Otsuka et al. teaches a developer cartridge which is rotatably mounted in a developing unit of an image forming apparatus, and supplies a developer to said developing unit while rotating, comprising a cylindrical cartridge main body having a developer outlet hole in an outer surface near one end, and a ring-like cartridge-side shutter which is fitted on the outer surface near said one end of said cylindrical cartridge main body to be movable along a rotating shaft of said cylindrical cartridge main body between a position where the developer outlet hole is opened and a position where the developer outlet hole is closed, wherein said developing unit has a guide for inserting said developer cartridge and a driving unit for rotating said developer cartridge (Figure 2). The developer cartridge wherein said cartridge-side shutter has a hole, and fits on said cylindrical cartridge main body so the hole is movable between an opening position where the hole aligns itself with the developer outlet hole and a closing position (Figure 2). A spiral is formed on an inner surface of said cylindrical cartridge main body (Figure 4a). The guide and said driving

Art Unit: 2852

unit are integrated (Figure 2). A toner scattering prevention seal is attached near the developer outlet hole of said cylindrical cartridge main body. The main body-side shutter is made of an elastic material. (column 7, lines 2-4). The image forming apparatus comprising a developing unit for developing an electrostatic latent image on an image bearing body with a developer, and a transfer unit for transferring the developed developer image onto a transfer medium. A projection 51 for preventing said cartridge-side shutter from slipping off is formed on the outer surface near said one end of said cylindrical cartridge main body (Figure 11).

Otsuka et al. does not teach a guide having a shutter in addition to the shutter on the developer cartridge.

Okada et al. teaches a guide that has a main body-side shutter with a hole (Figure 2), and when a developer cartridge is mounted, said cartridge-side shutter of the cylindrical cartridge main body moves from the position where the developer outlet hole is closed to the position where the developer outlet hole is opened, the developer outlet hole aligns itself with the hole of said main body-side shutter, and every time said cylindrical cartridge main body and said main body-side shutter integrally rotate to align the developer outlet hole and the hole of said main body-side shutter with a developer replenishment port formed below said main body-side shutter, the developer in said developer cartridge is supplied from the developer replenishment port to said developing unit via the developer outlet hole and the hole of said main body-side shutter.

Art Unit: 2852

Otsuka et al. in view of Okada et al. does not state that the developer cartridge has a diameter a of the developer outlet hole, a diameter b of the hole of said main body-side shutter, and a diameter c of the developer replenishment port satisfy a relation of  $a \leq b \leq c$ ; nor a developer cartridge wherein a diameter a of the developer outlet hole, a diameter d of the hole of said cartridge-side shutter, a diameter b of the hole of said main body-side shutter, and a diameter c of the developer replenishment port satisfy a relation of  $a \leq d \leq b \leq c$ . Otsuka et al. teaches that the diameters of the holes are such that they complement each other to promote toner flow. However, Otsuka et al. does not state the values or ranges for these diameters. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select the appropriate values or ranges for the diameters of the holes, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Otsuka et al. in view of Okada et al. does not state that an inner surface of said cartridge-side shutter and a surface of said cylindrical cartridge main body along which said cartridge-side shutter moves are threaded to mesh with each other, and said cartridge-side shutter is rotated to move on the surface of said cylindrical cartridge main body and stops at an unthreaded portion. It would have been an obvious matter of design choice to attach the shutter via a threaded portion to the developer cartridge, since applicant has not disclosed that solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the shutter

Art Unit: 2852

being attached by some other means which would allow it to rotate about the developer cartridge body.

***Allowable Subject Matter***

Claims 9 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 9 and 20 recite a developer cartridge wherein said cylindrical cartridge main body is supported by a roller which is in contact with the outer surface and made of an elastic material.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quana Grainger whose telephone number is 703 308-7616. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 703 308-1373. The fax phone numbers for the organization where this application or proceeding is assigned are 703 305-3230 for regular communications and 703 305-3230 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.



QG

April 16, 2001